

EPA Infrastructure for Ambient Air Bias Traceability to NIST

Changes and Status
Mark Shanis, OAQPS
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GOAL: STRONGER REGIONAL SUPPORT

FOCUS ON 3 PROGRAMS

EPA NPAP: MAILED (?PSD) + MOBILE TTP

SRP: 2 UPGRADES, BASE IN LV

PROTOCOL GASES VERIFICATION:
3RD PARTY

NPAP(M+TTP) + PEP = NPEP

- 2003 TRANSITION: Mailed Only, Back of the Analyzer (BOA) to Mailed + Mobile Through-the-Probe (TTP)/Station Inlet
- 2003 Audits: 3 Regions did TTP audits, 1/3 did PEP+TTP; Mailed to R1,2,3,8,9, and 10
- May 2004: 1st group training and certification, Like PEP (Written+ Hands-on): R2,4-7,9
- SOP (Adding to Draft as Use) and Implementation Plan (still in Prep).
- New: Reg2 Hi Flow Rate Subsystem (May-June)

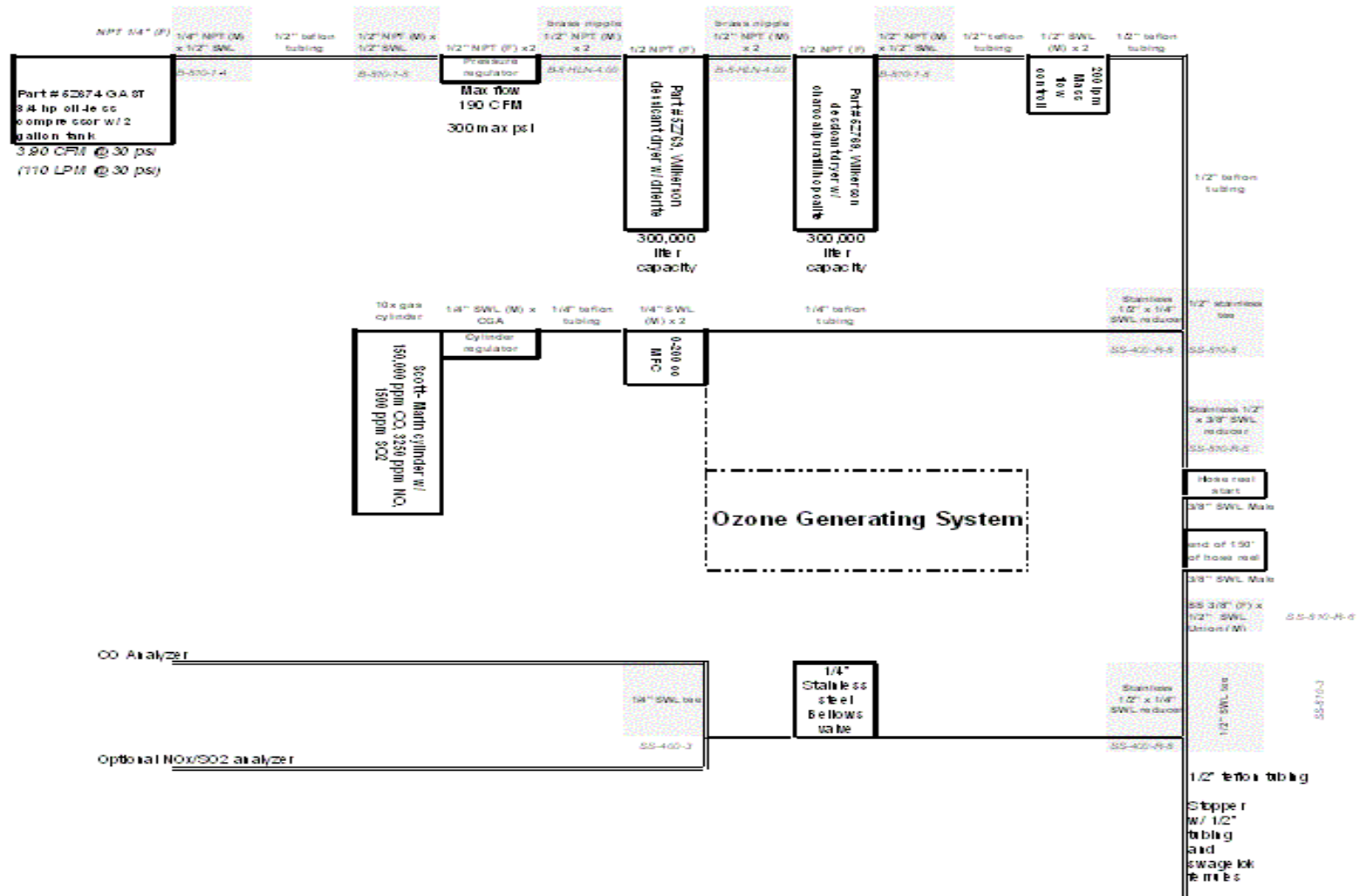
April 2004 NPAP Status

- Mobile TTP Labs in 6 Regions
- Del'd. to 2&9 on 3/11&12; 4 in Mid-Jan
- 2/6 Will Share Lab in 3 Neighboring Regions (9+10;2+1&3);R8?- now asking
- All 6 Plan Audits in 2004;So far-
 - R6= 17 sites, 26 analyzers, from 8/03- 2/04
 - R7= 16 sites,19 analyzers, from 7/03-3/04
 - R4&9; R5= Field Audits start in April; May

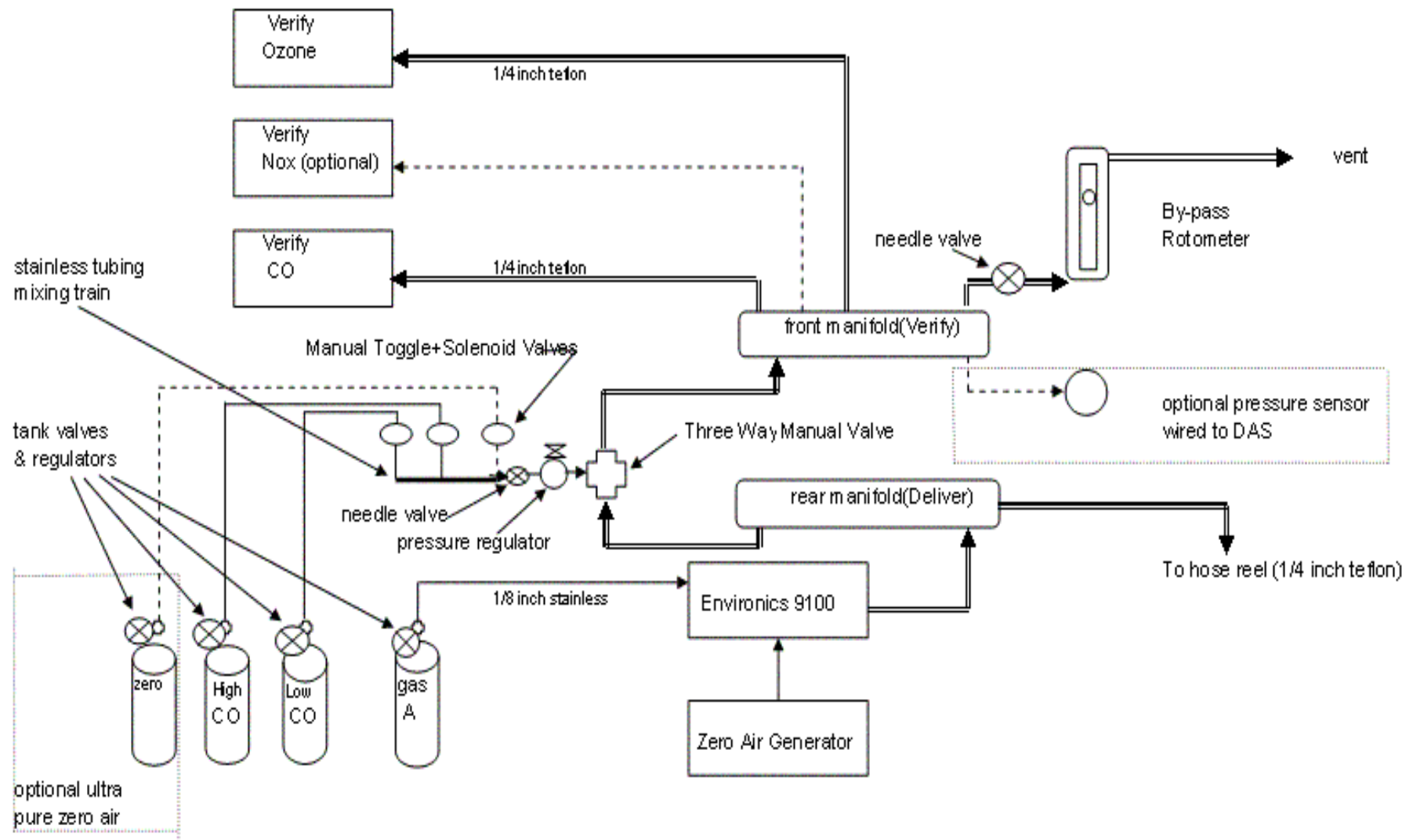
Combination Benefits/TradeOffs

- If EPA Staff Do Audits: No ESAT Labor Costs; In Practice So Far: R7-Can Focus on TTP
- If ESAT Staff Do Audits: Only EPA training, Oversight Time Needed; R6 1st, soon 4,9
- Common Benefit: Expanded Resources, Can Do Both TSAs and PEs more easily
- 04:EPA 2,5,7,TTPonly;ESATR4,6,9,NPEP

R2 High Flow Generation System



CAN 1 PERSON DO IT?



Cost/Benefit Tradeoffs

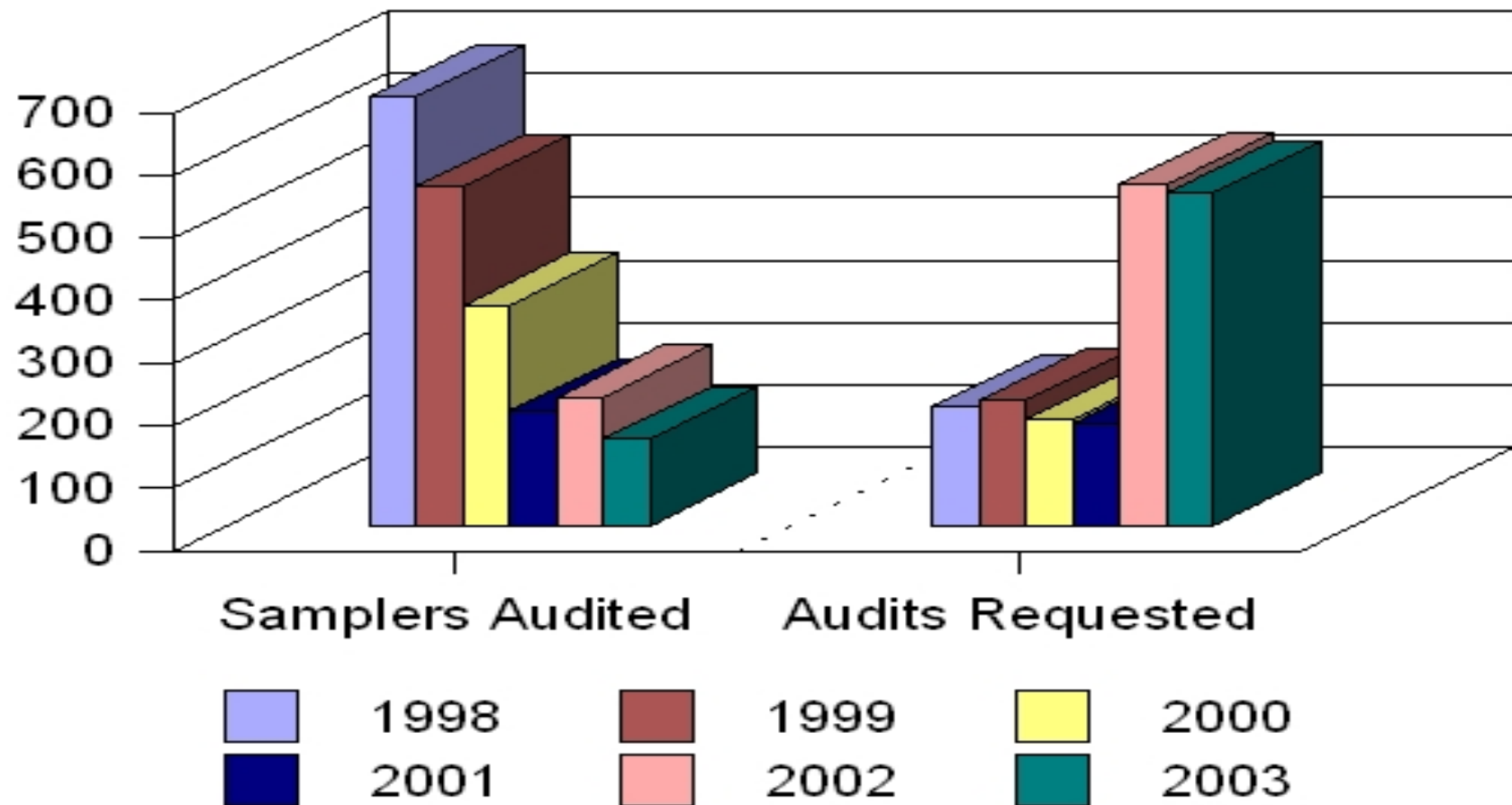
- Reg 6 NPEP: 17 sites, 26 monitors-\$29K
- Amounts for ESAT in 04
 - R2: \$10K, mostly for trning, support EPA TTP
 - R4:\$35K, for trning, PEP+TTP (NPEP)
 - R5, \$35K, trng, support EPA TTP, some TTP
 - R6: \$35K, for NPEP (PEP+TTP)
 - R7: \$25K,Trng, Support EPA TTP
 - R9: \$30K,Trng, PEP+TTP

Mailed Program, Reductions

- Mailed Contractor Funded in 04' for Regions 1,2,3,8,9, and 10
- Provide in 04': Ozone, CO, SO₂, NO/NO₂, PM₁₀, Lead
- Probably not: PAMS-VOC, Carbonyls; PSD
- Max# Audit Mailed Devices Very Limited: 15-20 O₃, 5-6 CO/SO₂/NO/NO₂; 10 PM₁₀
- Next Yr Funding? IMPT: S&L OK 103 use

Example: Ozone Monitors, NPAP Audits, 1998-2003

US SLAMS/PSD Ozone Monitors Audited by NPAP



NPEP Summary

- Special Advantages:
 - Multi-functionality: Audits, Sampling Priorities
 - Enhanced Equipment and labor, Regionally-Based, making it easier to do PEs and TSAs, and High Priority Sampling, Training, and Support for New Methods for S&Ls in Region
- Issues: Funding Future?
 - Cost/Audit Result Data for S&L 103 OK in '05
 - Hi Flow Stations, Portability; PSD, PAMS; Data Base System for Past NPAP and Future

Region 7 Mobile TTP Audit Lab



Roof Platform+Sampling Mods.



TEOM Mod +PC,etc.



Interior Front, Sampling Mod.



EPA/NIST SRP Network

- STATUS

- In Regions 1, 2, 4, 5, 6, 7, 8 and 9; 2 does 3, 9 does 10; a 2nd in 9 approx. this July
- 2 originally set up for comparing the 8 Regional SRPS to NIST, 1 traveling, 1 stationary; 1st based in RTP; now in LV
- Range of Ages: 1st RTP, Done 2/83, last in KC, KS(R7)1/89
- NIST has 12 Worldwide, latest made this year

EPA SRP Network Changes

- Upgrades Needed: 2 Funded, 2nd still in process; Hardware and software
- Feature Improvements: Change from all Manual operation to ability to automatically perform and record required documented procedure
- Benefits- Easier to certify multiple primary or transfer standards, more consistently, and with lower zero signal
- ORIA-LV Plans: Improved Trouble-shooting; Grp OK to Std. Cert. Forms; Summary Reports

NIST SRP Network Changes

- NIST Talk at June AWMA mtg-will provide first documentation of international comparisons, including EPA network
- Plans in progress to have BIPM(France) Lead as European Center and for non-USA SRP support
- Cost of new SRP Rising (Approx. \$65K now); Revised Manual in Progress

EPA Traceability Protocol

- On EPA TTN/EMC; for source and ambient levels, as of 98
- Presentation at this meeting
- ORD Verification Program stopped mid90s
- Users reporting problems; EPRI and EPA have done studies recently to assess problems
- Some Vendors have requested restart of Verification

3rd Party Verification

- Critical Features of ORD Audit Program
 - Low Cost
 - Very Low number of samples
 - Audit Sample Buying unknown to Vendor
 - Experienced Lab analysis; Vendors Coded
 - Process independent of vendors
 - RESULTS REPORTED TO PUBLIC
 - Documented Improvement in Tag Accuracy

Bias Traceability Summary

- Programs are still active, changes occurring;
Cited in Proposed 40 CFR Part 58 Revision
- Quality Data Requires both Continuation of Support and Change to keep up with Method and Data Priority changes
- Protocol Verification Success Indicates High sample numbers are not the only determinant of Effect:
 - Users Respond to the Attention Brought by Open Bias Assessment